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TYPES OF LIVING ECHINODERMS
PRESERVED IN ITALIAN SCIENTIFIC INSTITUTIONS

Riassunto. — *I Tipi di Echinodermi viventi conservati nelle collezioni scientifiche italiane.*

Nelle collezioni italiane sono conservati esemplari tipici di 28 Echinodermi viventi, descritti come specie (25) o sottospecie (3). Di questi taxa, 22 sono oggi considerati validi. Risultano perduti i tipi di 11 specie, tutte provenienti dai mari italiani.

Abstract. — In the Italian collections are preserved typical specimens of 28 living Echinoderms, described as species (25) or subspecies (3). 22 of these taxa are now considered valid. The types of 11 species, all from the Italian seas, appear to be lost.

To deal with type specimens does not mean adhering to the old typological species concept. It is now admitted that their function is simply that of « name bearers » because single or a few individuals cannot express the full identity of variable entities as species are. However the value of types for taxonomic work remains and is often emphasized. In many recent meetings has been recommended that lists of them be published. Such lists may be of interest also when small collections are involved. The latter, even if nearly unknown, may include types and therefore facilitate the use of them in unexpected and perhaps more accessible places.

This is the case for the collections of living Echinoderms presently existing in a few Italian scientific institutions. Their size is small, the maximum number of species being 660 (Collection of the writer).

As a result of the proper enquires, it is possible to give here a list of 28 taxa (25 species, 3 subspecies) of which typical specimens are preserved in Italy. 22 are considered valid. There are 10 holotypes, 7 paratypes, 10 syntypes, 1 neotype. They are available for further studies and

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comparisons, being distributed as follows (with the abbreviations used in the list):

Museo Zoologico, Università, Torino	MZUT
Museo Zoologico, Università, Firenze	MZUF
Museo Civico di Storia Naturale, Genova	MSNG
Stazione Zoologica, Napoli	SZN
Collection E. Tortonese	CT

The latter collection is provisionally kept in Genova (address of the writer). In a near future it will be left to a museum (In 1976 MSNG ignored the offer as gift). I am fully aware that « a specimen used as basis for description or illustration becomes common property, belongs to science rather than to an individual » (Mayr, 1953).

No type specimens have been found of 11 species, all collected in the Italian seas and described by various authors, nearly all during the second half of the past century. Perhaps some of them never existed, being well known that in old times not much attention was paid for fixing and preserving types. Anywhay the loss of them is to be related to the usually inadequate conditions of the Italian museums. Historical and other reasons prevented in this country the foundation of a National Museum of Natural History, well staffed and keeping old and new materials under good care.

It seems advisable to quote here these species, seven of which are still valid. For one of them there is now a neotype.

Types not found.

HOLOTHURIOIDEA

Holothuria huberti A. Russo, *Monit. Zool. Ital.*, 10, 1899: 225, 2 figs. Cagliari (Sardinia). = ? *H. tubulosa* Gmel. 1788.

Uroxia aurantiaca A. Costa, *Ann. Mus. Zool. Univ. Napoli*, 5, 1869: 57, pl. III f. 3. Naples. = *Havelockia inermis* (Heller, 1868).

Chirodota venusta R. Semon, *Mitth. Zool. St. Neapel*, 7, 1887: 276, pl. 9 f. 1-2, pl. 10 f. 8, 14, 15. Naples. = *Chiridota venusta*.

Molpadia musculus Risso, *Hist. Nat. Europe mér.*, 5, 1826: 293. Thyrrhenian sea, m 823-760, muddy bottom. « Washington », 1881-82, st. XXXIII. The three specimens were given to MZUF and were studied by C. Bartolini Baldelli (*Arch. Zool. Ital.*, VII, 1914: 104, pl. VI f. 7, VII f. 14-15). Later on they were re-examined by G. S. Heding (*Dan. « Ingolf » Exp.*, IV, 9, 1935: 37) and designated as neotypes.

Trochostoma mediterraneum Bartolini Baldelli, *Arch. Zool. Ital.*, VII, 1914: 105, pl. VII f. 9-10. Thyrrhenian sea, m 800-1005, muddy bottom. « Washington », 1881-82, st. I. The single specimen (holotype) was also in MZUF. It was seen by G. S. Heding (1935) who referred it to the genus *Haplodactyla*. The present name is *Hedingia mediterranea*.

ASTEROIDEA

Ophidiaster Lessonae F. Gasco, *Rend. Accad. Sci. Fis. Mat. Napoli*, 15, 2, 1876: 8, f. 4-5. Is. Capri, 100-150 m (Naples) = *Hacelia attenuata* (Gray, 1840).

Asteropsis capreensis F. Gasco, *Rend. Accad. Sci. Fis. Mat. Napoli*, 15, 2, 1876: 9, f. 6-7. Is. Capri, 100-150 m (Naples). = *Marginaster capreensis*.

Asteriscus Pancerii F. Gasco, *Bull. Assoc. Nat. Med. Napoli*, 6, 1870; *Rend. Accad. Sci. Fis. Mat. Napoli*, 15, 2, 1876: 9, f. 8-9. Gulf of Naples. (See: neotype, pag. 84). = *Asterina pancerii*.

Palmipes Lobianci H. Ludwig, *Seest. Mittelm.*, 1897: 267, pl. 5 f. 9. Is. Capri, 90 m (Naples). = *Anseropoda lobiancoi*.

ECHINOIDEA

Sphaerechinus roseus A. Russo, *Atti Accad. Sci. Fis. Mat. Napoli*, (2) VI, 1, 193: 8, fig. 7. Gulf of Naples. = *S. granularis* (Lamarck, 1816).

Metalia Costae F. Gasco, *Rend. Accad. Sci. Fis. Mat. Napoli*, 15, 2, 1876: 4, f. 1-2. Is. Capri, 100-150 m (Naples). = *Plagiobrissus costai*.

Existing types.

HOLOTHURIOIDEA

Holothuria (Metriatyla) tortonesei Cherbonnier, 1979.

Bull. Mus. nat. Hist. Nat. Paris, 4, 1, A, 2: 291, fig. 1.

Holotype (MZUF n. 385). Sham Obhor, Red sea coast of Saudi Arabia near Jeddah. On branched corals, about 1 m. E. Tortonese, April 1977.

Bathyplores bipartitus Hérouard, 1923.

Rés. Camp. Sci. Monaco, 66: 34, pl. V f. 8, IX f. 17-20.

One syntype (CT, from Monaco Museum, 1946). Off Cape Verde islands, 15°17'N, 23°01'45"W, m 1311. Camp. Monaco 1901, st. 1193. = *B. pourtalesi* Théel, 1886.

Elpidia glacialis kermadecensis Hansen, 1956.

« *Galathea* » *Rep.*, 2: 34-38, fig. 2-3.

One paratype (MSNG n. 38667, from Copenhagen Museum, 1961). Kermadec trench, Pacific ocean, 35°16'S, 178°W, 8210-8300 m. « Galathea » st. 649.

Psolus segregatus P. Perrier, 1905.

Ann. Sci. Nat. (9) 1: 59; 81-146, pl. 1-5, several figs.

One paratype (CT, from Paris Museum, 1949). Cape Horn, New Year Sound. Miss. Cape Horn, st. 128.

ASTEROIDEA

Astropecten aster De Filippi, 1859.

Rév. Mag. Zool., XI: 63.

19 syntypes (4 are dry). (MZUT n. 233 and 378). Livorno, W Italy.

Mr. Spagnolini, 1858. = *A. jonstoni* (Delle Chiaje, 1825).

These seastars were redescribed by P. Marchisio (*Boll. Mus. Zool. Univ. Torino*, 8, n. 149, 1893). A drawing of a specimen was published by E. Tortonese (*Ibid.* 45, 1935-36, n. 61, 1935-36, pl. V f. 17).

Astropecten acutiradiatus Tortonese, 1956.

Ann. Mus. St. Nat. Genova, 68: 323, pl. 8.

Holotype, dry (MSNG 36017). Rio de Janeiro. Mus. Ocean. Rio Grande, 1955.

Bathybiaster liouvillei Koehler, 1912.

Echin. 2me Exp. Ant. Franc. 1908-10: 96, pl. 6-8.

Two syntypes (MSNG n. 38668, from Paris Museum, 1957). Antarctic ocean, exp. Charcot, 1910. = *B. loripes obesus* Sladen, 1889.

Persephonaster spinulosus H. L. Clark, 1941.

Mem. Soc. Cubana Hist. Nat., XV, 1: 23, pl. 3 f. 3.

One paratype, dry (CT from Harvard Museum n. 3884; 1949). Cuba: NW of Cabo San Antonio, Pinar del Rio Prov. « Atlantis » st. 3313, 1939. According to M. Downey (*Smiths. Contr. Zool.* 126, 1973: 33) this astropectinid is probably identical to *Psilaster patagiatus* Sladen, 1889.

Stellasteropsis colubrinus Macan, 1938.

J. Murray Exp. Sci. Rep. IV, 9: 395, pl. V f. 2-5.

One paratype, dry (CT, from Brit. Museum, 1949). NW Indian ocean, off South Arabia, bottom with Lithothamnion, 38 m. J. Murray Exp. st. 45.

Fromia ghardaqana Mortensen, 1938.

Mém. Acad. Roy. Sci. Lett. Danemark, (9) VII, 3: 37, pl. VI f. 1-4, VII.

One paratype, dry (CT, from Th. Mortensen, 1938). Ghardaqa, Egypt: Red sea. Th. Mortensen, VIII-1937.

Goniodiscaster australiae Tortonese, 1935.

Boll. Mus. Zool. Univ. Torino, 45, n. 69, pl. 1.

Holotype, dry (MZUT, n. 449). Western Australia. Ship « Calabria », 1905-06.

Leucaster involutus Koehler, 1912.

Echin. 2me Exp. Ant. Franc. 1908-10: 55, pl. 5.

Two syntypes (MSNG n. 38669, from Paris Museum, 1957). Antarctic ocean, exp. Charcot, 1910. = *Cuenotaster involutus*.

Asteriscus pancerii Gasco, 1870.

Bull. Ass. Nat. Med. Napoli, 6; *Rend. Accad. Sci. Fis. Mat. Napoli*, 15, 3: 9, f. 8-9.

Neotype, dry (MSNG n. 38096). Bacoli, gulf of Pozzuoli (Naples). E. Tortonese, 1960. = *Asterina pancerii*.

This neotype was designated as such by E. Tortonese (*Doriana*, III, n. 108, 1960).

Echinaster Doriae De Filippi, 1859.

Rév. Mag. Zool., XI: 63-64.

Two syntypes, dry (MZUT n. 234-235). La Spezia, western gulf of Genoa. G. Doria, 1858.

Echinaster tribulus De Filippi, 1859.

Rév. Mag. Zool., XI: 63-64.

Holotype, dry (MZUT n. 236). La Spezia, western gulf of Genoa. G. Doria, 1858.

H. Ludwig (*Mitth. Zool. Stat. Neapel*, I, 1879: 253) synonymized these two asteroids with *Asterias* (now *Coscinasterias*) *tenuispina* Lam., but later (*Boll. Mus. Zool. Univ. Torino*, XI, n. 241, 1896) — having examined them — referred both to an American species: *Echinaster spinosus* Müll. Trosch. The present author (*Ibid.*, XLV, n. 61, 1935-36) reconsidered the question, confirming that these seastars cannot be from La Spezia or any other Mediterranean locality. He shared Ludwig's opinion about an American origin and figured the species (*E. Doriae*, pl. III f. 8-9; *E. tribulus*, pl. II f. 4). The former was considered as *E. sentus* (Say), the latter as *E. echinophorus* (Lam.). But the taxonomy of the American *Echinaster* was and still is very confused, so that seems impossible to keep this view. It is now difficult to establish what really are De Filippi's specimens. No records of them exist in the recent literature.

Echinaster sepositus mediterraneus Marchisio, 1896.

Boll. Mus. Zool. Univ. Torino, n. IX, n. 227: 2.

12 syntypes, dry (MZUT n. 250, 257, 367). Portofino, gulf of Genoa.

From the Zoological Station in Rapallo (no more in existence), 1894.
= *E. sepositus* (Retzius, 1805).

Pteraster rugosus H. L. Clark, 1941.

Mem. Soc. Cubana Hist. Nat., XV, 1: 61, pl. 6 f. 1.

One paratype, dry (CT, from Harvard Museum n. 4031; 1949). Cuba, off Playa Baracoa, 382 m. « Atlantis » st. 3302, 1939.

Freyella spinosa Perrier, 1894.

Rés. Camp. Sci. « Travailleur » et « Talisman ». *Echin.*: 85, pl. VII.

One syntype, dry and incomplete: disc and three arms (CT, from Paris Museum, 1949). North Atlantic, 2330-2320 m. « Talisman », 1883.

OPHIUROIDEA

Ophiomoeris spinosa Koehler, 1904.

Ophiur. « Siboga », 1: 17, pl. 4 f. 1-3.

One syntype (MSNG n. 38671, from Amsterdam Museum, 1960). Sunda sea: 5°48'S, 132°13'E, 304 m. « Siboga » st. 253.

Ophiocamax rugosa Koehler, 1904.

Ophiur. « Siboga », 1: 139, pl. 26 f. 4-7.

One syntype (MSNG n. 38670, from Amsterdam Museum, 1960). Sunda sea: 5°28'S, 132°E, 204 m. « Siboga » st. 251.

Amphioplus brachiostictus Tortonese, 1948.

Boll. Ist. Mus. Zool. Univ. Torino, 1, n. 12: 1, fig.

Holotype, dry (MZUT n. 819). Bay of Santa Elena, Ecuador. E. Festa, 1898.

Amphioplus somaliensis Tortonese, 1980.

Monit. Zool. Ital. N. S. 13. *Suppl.* n. 5: 118, f. 8.

Holotype, dry (MZUF n. 340). Sar Uanle, Somaliland; *Cymodocea* beds. G. Chelazzi, 1976.

Amphioplus minutus Tortonese, 1980.

Monit. Zool. Ital. N. S. 13. *Suppl.* n. 5: 119, f. 9.

Holotype, dry (MZUF n. 341). Gesira, Somaliland. G. Chelazzi, 1976.

Ophioconis brevispina Ludwig, 1881.

Mitth. Zool. Stat. Neapel, II: 61, pl. 4 f. 3.

Holotype, dry (SZN n. 280). Gulf of Naples, 1879. = *Cryptopelta brevispina*.

This species had been already named as new in 1879 (*Ibid.* I: 546), by Ludwig, but without description.

ECHINOIDEA

Spatangus inermis Mortensen, 1913.

Mitth. Zool. Stat. Neapel, 21, 1: 24, pl. I and V, some figs.

Holotype, dry and half bare (SZN n. 1097). Secca di Ischia, gulf of Naples.

Figured in: E. Tortonese, *Echin. Fauna d'Italia*, 1965: 358, f. 174.

Echinocardium fenauxi Péquignat, 1963.

Doriana, 3, n. 138: 1, f. 1-2.

a) Four paratypes, dry and bare (CT, from M. Cafiero, 1946). Noli, gulf of Genoa.

b) One paratype, dry and bare (CT, from Mrs L. Fénaux, 1963). Villefranche, cap Ferrat; 50 m.

Péquignat stated (*Bull. Inst. Océan. Monaco*, 62, n. 1291, 1964: 5) that the holotype is preserved in the Zoological Station of Villefranche, but was mistaken adding « les cotypes auxiliaires restant au Museo Civico di storia naturale de Gênes ». The tests from Noli are 43-58 mm long, none measuring « plus de 8 cm de diamètre » as said in the original description, in which fig. 2 shows one of the paratypes from Noli, 43 mm long.

Paraster erythraeus Tortonese, 1932.

Boll. Mus. Zool. Univ. Torino, 42, n. 19: 1, f. 1-9.

Holotype, dry and bare (MZUT n. 101). Red sea (no other data). = *P. gibberulus* (L. Ag. Desor, 1847).

Brissopsis atlantica mediterranea Mortensen, 1913.

Mitth. Zool. Stat. Neapel, 21, 1: 29.

Two syntypes, dry (SZN n. 1066). Is. Capri, gulf of Naples; 100 m.

This taxon was raised to specific level by R. H. Cheser (*Stud. Trop. Ocean. Univ. Miami*, 7, 1968: 77).

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